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Freestanding Emergency Departments: A Possible Solution to Rural Hospital Closure

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Abstract

Freestanding emergency departments have become more and more common over the years and have started to pop up in many states across the country. A freestanding emergency department is a facility that provides healthcare in the form of emergency services separate from those at a hospital. FEDs can be seen as independent structures that are distinct from hospital-based emergency rooms and urgent facilities. Just as freestanding emergency departments have spread across the country in a bit of a frenzy, another prevalent issue has been sweeping the country, the closure of rural hospitals. Over the last decade rural hospitals have struggled to survive due to severe financial strains. Currently FEDs are more frequently located within suburban or metropolitan areas, however it is believed the concept of FED's could work well in rural areas with little to no emergency care access. The growing popularity and success of telehealth services proposes that services like this may contribute to the success of FED's in rural areas. This literature review will explore FED's in more detail and whether they can be the answer to the problem of rural hospital closures.

One sentence summary: This review explores the concept of FEDs, recent success stories, and the possibility of FEDs with the incorporation of telehealth services in rural communities as a solution to rural hospital closures.

Introduction

Freestanding emergency departments (FEDs) are health care facilities that provide emergency medical services distinct from the emergency department (ED) care that is received at a hospital (1). FEDs are separate medical centers that are not attached to hospitals. These facilities are growing increasingly popular across the United States (US) and other nations. FEDs are presented in metropolitan areas as a resolution to the impending pressure put on the shoulders of our emergency healthcare services to provide proficient and immediate care to the population. From 2015-2016 the number of emergency room visits in the US increased by almost 10 million (2, 3). FEDs could potentially alleviate ED overcrowding issues. They can remove the burden by recruiting the patients with lower ESI levels away from hospital-based emergency departments. Additionally, FEDs may improve the gap in access to care within rural communities. Rural areas across the US are finding it more difficult to receive quality healthcare services within their communities as local hospitals begin to close. These closures results in patients driving longer for their care. In some instances, in which a short travel time for care is essential, that added travel time can substantially alter health outcomes. FEDs may also serve high trauma patients from rural underserved areas and provide them with the immediate care that they may not have gotten if they had to travel a long distance for care (4).

Methods

A library-assisted review was used to search databases such as PubMed, Elsevier, and Web of Science. Search terms used included “freestanding emergency department”, “freestanding emergency centers”, “rural freestanding emergency department”, “rural freestanding emergency center”, “telemedicine”, and “rural hospital closure”. Searches were limited to any time after the year 2000. Sources chosen between the years 2000 and 2018 were

utilized if they had been cited at least once. Sources from 2019 to present were analyzed for viable, accurate, and sufficient information and data prior to use in this review.

Freestanding Emergency Departments

FED's can be described as operating separate from a hospital. There are two styles of FEDs: a satellite emergency department also called a hospital outpatient department (HOPD) and completely independent freestanding emergency centers (IFECs). Satellite emergency departments are facilities are owned and operated by a specific medical center or hospital system. These facilities would need to fall under and obey all the same regulations and rules their "big brother" health system would require. For example, if the hospital system allows Medicare or Medicaid payments at its satellite emergency departments then that ED would need to abide by the Centers for Medicare and Medicaid Services (CMS) regulations just as any hospital-based ED underneath the cloak of that health system would (1). However, this only applies if the FED is located within a 35-mile radius of the hospital associated with it (5). IFECs on the other hand are owned and operated by private organizations. Unfortunately, the CMS does not recognize IFECs as emergency departments, so Medicare and Medicaid are not accepted at those facilities (5)

The rules and regulations for FEDs vary on a state by state basis because there are currently no national standards for FEDs. Some medical organizations have generalized recommendations on how they feel FEDs should be regulated. The American College of Emergency Physicians advocates the following guidelines for FEDs whether they are IFECs or HOPDs: 1. Be available 24hrs a day/7 days a week/365 days a year; 2. Be supplied with qualified emergency physicians; 3. Be staffed with a registered nurse with certification for

advanced cardiac life support and pediatric life support;4. Be staffed with sufficient medical and nursing personnel to carryout any emergency procedures needed; and 5. Be prepared with policies for when to transfer to a higher level of care if needed (1). Both HOPDs and IFECs have had large amounts of growth within their sector of healthcare. Within the ten years of 2007-2017, the number of FEDs in the US increased from 80 to around 550 (6,7). Although both divisions of FEDs have seen lots of growth, HOPDs are still the more common than IFECs (7)

FEDs vs Hospital Based Emergency Departments

When analyzing FEDs it is important to note what distinguishes them from hospital-based emergency departments (HBEDs). HBEDs are the traditional ED one would think of when initially considering emergency care. They are attached to hospitals and provide emergency care 24/7 365 days a year. They require emergency trained physicians and other staff like physician assistants, nurses etc. HBEDs are able to easily transfer severe patients into critical surgery or admit them to the hospital because of their locations. Although the basis of FEDs and HBED are quite similar, the clinical characteristics and patient diagnoses vary significantly between the two. Burke et al conducted a study to observe the clinical characteristics of FEDs and HBEDs. One noteworthy trend they found was FEDs have a lower percentage of high acuity cases. FEDs are shown to have more of its patients be at an Emergency Severity Index (ESI) level of 3 or 4 (8). ESI is used in emergency healthcare as a way to rate the severity of their injuries sustained. The scale is 1-5, where 1 is the most severe and 5 is the least. Others have found similar results. Dayton et al (9) observed acuity, patient wait times, and patient experience for 8 academic freestanding EDs across the US. Results showed FEDs had lower numbers of level 1 and level 2 triage in patients. This can be seen in Figure 1 below. Figure 1 also shows academic FEDs had

higher rates of level 3 and level 4 triage. Simon et al (10) examined 3 off campus FEDs and 1 HBED were all within the same hospital system. They found the main ED attached to the hospital had more patients with a higher acuity level, while the FEDs had more of the lower acuity cases. This may be due to the fact that in the past, most ambulances were instructed to bring their Level 1 and Level 2 patients to the HBEDs so if immediate surgery or hospital admission is required, they are already at a hospital.

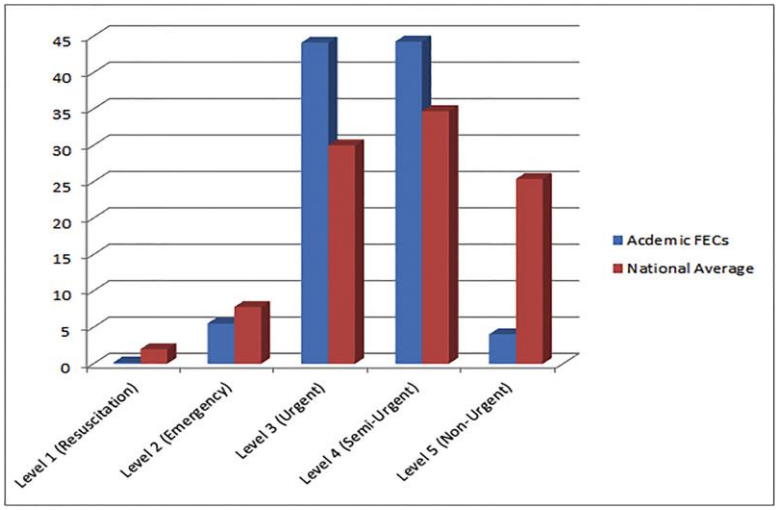

Figure 1. Average triage level of patients seen in academic FEDs compared to national averages. Retrieved from Dayton et al (9)

Further analysis of patient characteristics shows that patients in FEDs are less likely to self-report serious conditions (10). This results in them being grouped into Level 4 or 5 within the triage system. The explanation behind this phenomenon may be that patients do not feel the need to overexaggerate their symptoms to jump the wait lines like they would tend to do in a traditional ED. A majority of the patients seen in FEDS are younger individuals (25-44 years) presenting with respiratory issues or basic injuries. HBEDs on the other hand tend to have the older patients (45-64 years) with gastrointestinal or chest/heart issues (11).

Comparisons of the populations of patients in both FEDs and HBEDs show substantial differences between the insurance coverage (4). Burke et al found a higher percentage of patients FED patients had private insurance (43%) when compared to HBED patients (20%) (8) The results of the study also showed the FEDs had a lower percentage of patients with Medicare (25%) and Medicaid (23%) than HBED patients (42% and 30%). The low numbers of CMS

payments is likely due to CMS not recognizing some forms of FEDs as emergency departments. As mentioned before CMS will only reimburse patients for emergency care in FEDs that are owned and operated by a medical group or hospital system.

FEDs vs Urgent Care Centers

The concept of a FED seems to overlap a bit to that of an urgent care center. Most of the public that does not have a background or career in healthcare would assume the two coincide. Urgent care centers can be defined as a healthcare facility that provides urgent but not emergency medical care. These facilities are used in situations where an individual's primary care provider is gone, too busy, or if the clinic is closed like in the case of a weekend or holiday. Urgent care centers cater to many non-life threating health issue like upper respiratory infections, broken bones, minor lacerations etc. One of the main differences between urgent care and FEDs or HBEDs is urgent care facilities are not typically open 24/7 for 365 days a year like the latter. Another difference between the two is that urgent care facilities do not require an emergency medical care trained physician to be working at all times. Urgent care facilities utilize emergency trained nurses, physician assistants, and nurse practitioners. Typically, a physician will be on call if the need for him or her arises. As a patient it can be difficult to distinguish which type of care that one needs, and with that, what type of health care facility to go to based off of that care. Figure 3 below depicts a diagram to help patients select a health provider.

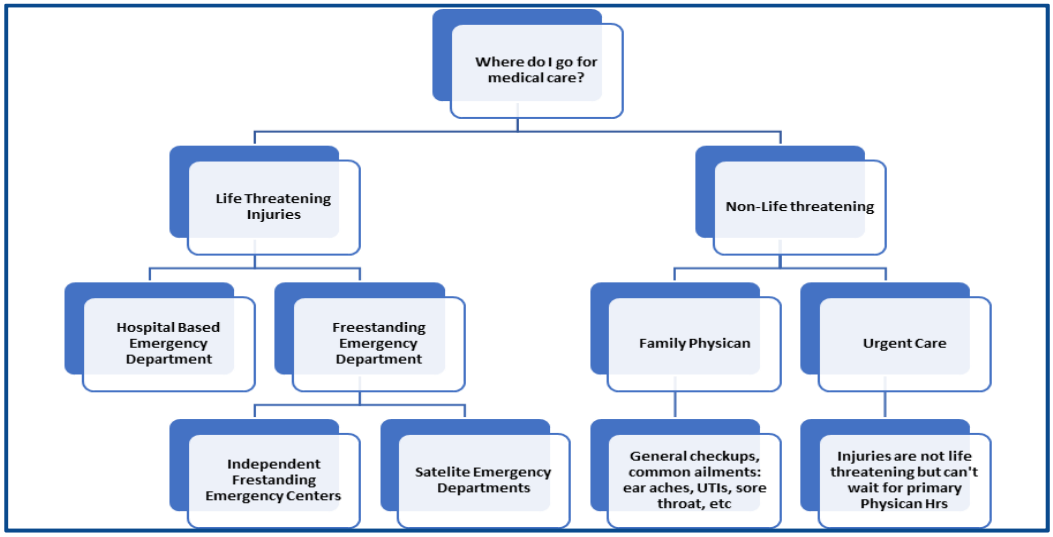

Figure 3. Healthcare provider decision making infographic.

Rural Hospital Closure Crisis

In the last ten years the rate of rural hospitals closing across the US has been increasing considerably. Following the start of the decade there seemed to be a slight decline in closures of rural hospitals, however since 2010 there have been almost one hundred closures. Unfortunately, its predicted that this number is only going to continue to rise. Almost half of all operating rural hospitals are financially troubled and are at risk for closure (12). Proposed reasons for the augmentation of the rates of rural hospital closures include profitability, utilization, staffing, and revenue. In a recent study, Kaufman et al analyzed the characteristics of critical access hospitals and other rural hospitals that closed and those that did not close in the years 2010-2014. They found that critical access hospitals and other rural hospitals closed due to low profit level, patient numbers, and staffing issues when compared to others in those years that remained opened (13). Common reasons for low profitability include decreased inpatients, lack of surgery abilities, and just a low daily census. Justification for staffing issues involves the fact that average salary for rural hospital providers is lower when compared to other hospital providers. This can make it

difficult to both attract providers and maintain providers in a rural or critical access area. A rural hospital closure can lead to a loss of skilled jobs within a community, which can create an additional negative affect on rural communities. Studies by Holmes, Slifkin, Randolph, and Poley suggest that is situations when a county's only hospital closes, it can create an irreversible adverse effect on the economies of communities within the county (14). Possible explanation for these negative effectors may be a failure of Medicare expansion in the states where there are high closure rates, like in the south. Although recognizing the issue of rural hospital closures is important, finding a solution to this issue is equally important.

FED as a Solution

One potential solution to the problems caused by rural hospital closures is a FED. More specifically, a completely independent FED may be the best solution for providing care in rural or underserved areas. Under this model, there would be no need for its location to be within a 35-mile radius of its main hospital, which would allow for its care to reach more remote locations. FEDs in rural or underserved areas would lower the burden on EMS services when transporting patients to FEDs, decrease the patient travel times for emergency care, and economically benefit rural communities.

Benefits of FEDs in Rural Areas

Traditionally, emergency medical services (EMS) and ambulances have taken on the burden of providing emergency care in rural or critical access areas and transporting them to the nearest hospital, whether it be 5 or 45 minutes way. Over recent years however, rural EMS providers have been under the same umbrella of problems as rural hospital providers. EMS

providers have had to face lowering numbers of volunteers, decreased CMS reimbursement, and larger areas of coverage due to hospital closures (15). A study by Lawner et al observed the changes in EMS ambulance metrics in Queen Anne's country Maryland before and after the opening of a FED in that country. Results showed that the addition of the FED to the county allowed for a statistically significant decrease in the transport interval, turnaround time, back-in service interval, and out of service interval (16). The addition of independent FEDs into rural communities may lower the burden on EMS and ambulance services, ideally by decreasing the long travel times.

Currently, FEDs are more common in suburban or metropolitan areas. The majority of these FEDs are satellite emergency departments that are near their "big sister" hospitals that manage them. Patient travel times in metropolitan areas are typically half of what it would be for a patient in a rural area. According to a study by the Pew Research Center, rural Americans are more willing to admit access to a hospital or a good provider is an issue in their community than someone living in a metropolitan or suburban area (17). The addition of an independent FED in rural areas could substantially lower the travel distance for patients by shortening the trip by both length of time and distance.

As mentioned previously, the closure of a rural or critical access hospitals can have detrimental effects on the surrounding communities' economies. If an independent FED was built within one of these communities it may bring in profits for the community, increase the number of skilled health careers in the area, and even increase populations. The opportunity for jobs may even draw people to the area, which would increase both the housing market and overall economy in these areas.

Incorporation of Telehealth Services

Following the closure of rural hospitals, some of the hospital buildings are torn down or just abandoned. When developing an independent FED, if possible it may be cost effective to just convert the hospitals into the FEDs. This could save a substantial amount of money for the health organization or county that is creating the FED. Another way for FEDs to be successful in rural areas would include the incorporation of telehealth services into their practices. Telehealth or telemedicine can be defined as the delivery of healthcare services and information via technology (18). Telehealth services have a wide spectrum of technologies and tools that can be utilized in many different ways. For example, telehealth includes services between clinician to clinician or clinician to their patients. Observing this technology between two clinicians could involve emailing back and forth or even video conferencing. This could be used in instances with emergency trauma or any specialty. Telehealth within an independent FED may allow physicians assistants or nurse practitioners, who may be the only providers in a rural area, give lifesaving care to a patient who may not be able to travel to receive the necessary care. Telehealth between a clinician and their patients would involve services like email or mobile apps to communicate. Patients are able to get direct advice, symptom monitoring, and complete access to their health records (19). Incorporation of telehealth services into an independent FED in a rural or underserved area would ensure patients are receiving quality care within their communities.

Required Healthcare Reform

As mentioned earlier, CMS does not reemburse for services at independent FEDs. Since the proposed solution to rural hospital closures is an independent FED, this poses a challenge. In the summer of 2016, the Medicare Payment Advisory Committee (MedPAC) suggested that

regulations for Critical Access Hospitals (CAH) and FEDs need reform. This reform included suggested funding being allocated for CAHs in financial trouble to be converted to FEDs (20). They concluded that action would be required from the rural hospitals and Congress. The result would be a new Medicare payment model that preserves emergency care within these rural communities. Funds for this proposed model would be allocated from funds currently set aside for low volume inpatient services (20). This CMS reform would allow for the independent FED to become a promising solution for rural hospital closure.

Limitations

Many of the studies of FEDs are from FEDs located within suburban or metropolitan areas. The studies are not necessarily representative of the direct affects the addition of a FED in a rural or critical access area. The proposed CMS reform is not an end all solution to the success of FEDs in a rural community. Also, the addition of an independent FED to a rural community is not guaranteed to boost economic activity, but is a possible outcome based off the affect of a hospital closure on surrounding rural communities.

Conclusions

The increases in rural hospital closures across the country have a large population of Americans wondering where they can go to receive quality healthcare in the case of an emergency. Following sufficient CMS reform, the proposed independent FEDs could be a solution to this growing problem. With the help of telehealth services, FEDs could lower the burden on EMS services by decreasing coverage areas, lower the patient travel times and travel

distance for emergency care, and economically benefit rural communities by bringing jobs and house buyers to the communities.

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